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Applicant	HITACHI CHEMICAL CO., LTD.	Issue Date Dec 26, 2003
Agent	Dragon International Patent Office	
Application No.	01136521.8	
Title of Invention	Incombustible Resin Composition, Prepreg, Laminated plate, Metal-clad laminated plate, Printed wiring board and multi-layer printed board	

1. ☒ In accordance with the Request for substantive examination, the examiner has made the examination on the above patent application based on the provision in paragraph 1, Article 35 of the PRC Patent Law.

2. ☒ The applicant requested to designate the filing date of

☒ with the submission of certified copy of priority Document(s).

☐ no certified copy of priority document has been received heretofore and, according to the provisions of Article 30 of the PRC Patent Law, it is deemed that no priority right has been requested.

☐ the present application is PCT application.

3. ☐ The applicant submitted the amended text is not in conformity with Article 33 of Chinese Patent Law and is unacceptable:

☐ the amended text submitted according to Article 28 or 41 of the PCT.

4. ☒ Examination is made based on the Chinese translation of the original filing document.

☐ Examination is made based on the following documentations.

☐ page(s) _____ of description based on the Chinese translation of the original filing document.

Page(s) _____ of description based on the Chinese translation of attachment of international Preliminary Examination Report.

Page(s) _____ of description based on the amended documents that are submitted in accordance with Article 28 or 41 of the PCT.

Page(s) _____ of description based on the amended documents that are submitted in accordance with Article 51 of the Chinese Patent Law.

☐ Item(s) _____ of claims based on the Chinese translation of the original filing document.

Item(s) _____ of claims based on the Chinese translation of the amended documents that are submitted in accordance with Article 19 of the PCT.

Item(s) _____ of claims based on the Chinese translation of attachment of international Preliminary Examination Report.

Item(s) _____ of claims based on the amended documents that are submitted in accordance with Article 28 or 41 of the PCT.

Page(s) _____ of claims based on the amended documents that are submitted in accordance with Article 51 of the Chinese Patent Law.

☐ page(s) _____ of drawings based on the Chinese translation of the original filing document.

Page(s) _____ of drawings based on the Chinese translation of attachment of international Preliminary Examination Report.

Page(s) _____ of drawings based on the amended documents that are submitted in accordance with Article 28 or 41 of the PCT.

Page(s) _____ of drawings based on the amended documents that are submitted in accordance with Article 51 of the Chinese Patent Law.

5. ☐ The notification is made without conducting the search for the patent ability.

☒ The notification is made under the search for the patent ability.

☒ The following reference materials have been cited in this notification (their serial numbers will be referred to in the following procedure);

Serial Number	Number or Title of Reference Material	Publication Date (or Filing Date of A Conflict Patent Application)
1	CN 1070061 A	March 17, 1993
2		

6. The conclusion of the examination;

☐ In regard to the description;

☐ The subject matter of the present application is not accepted based on the Article 5 of the PRC Patent Law.

☐ The presentation of the description is not in conformity with the provision of Rule 26, Paragraph 3 of the Implementing Regulations of PRC Patent Law.

☐ The presentation of the description is not in conformity with the provision of Rule 18 of the Implementing Regulations of PRC Patent Law.

☐ The presentation of the abstract is not in conformity with Paragraph 1 of Rule 24 of the Implementing Regulations of PRC Patent Law.

☒ In regard to the Claims:

☐ Claims _____ can not be allowed beyond the scope of the protection based on the Article 25 of the PRC Patent Law.

☐ Claims _____ do not belong to the definition of invention based on the provision of paragraph 1, Rule 2 of the Implementing Regulations of the PRC Patent Law.

- ☒ Claims 1, 4-7, 9-11 can not be allowed owing to lack of novelty based on the provision of paragraph 2, Article 22 of PRC Patent Law.
- ☒ Claims 2, 3, 12-16, 17 can not be allowed owing to lack of inventiveness based on the provision of paragraph 3, Article 22 of PRC Patent Law.
- ☐ Claims _____ can not be allowed owing to lack of practical applicability based on the provision of paragraph 4, Article 22 of PRC Patent Law.
- ☐ Claims _____ can not be allowed based on the provision of paragraph 4, Article 26 of PRC Patent Law.
- ☐ Claims _____ can not be allowed based on the provision of paragraph 1, Article 31 of PRC Patent Law.
- ☒ Claims 1, 3, 8-11, 17 can not be allowed based on the provision of Rules 20 to 23 of the Implementing Regulations of the PRC Patent Law.
- ☐ Claims _____ can not be allowed based on the provision of Article 9 of PRC Patent Law.
- ☐ Claims _____ can not be allowed based on the provision of paragraph 1, Rule 12 of the Implementing Regulations of the PRC Patent Law.

The explanation of the conclusion is given in the attachment sheet in details

7. According to the above conclusion, it is considered that

☐ the applicant should amend the application documents based on the request in the Attachment Sheet.

☒ the applicant should state the reason on which the application can be accepted and amend the part that is indicated not to be conformity with the requirement, otherwise the application will be rejected.

☐ No subject matter in the application is accepted, said application will be rejected if the applicant does not make a statement or fail to make a statement.

8. The applicant is drawn attention to that

(1) In accordance with the provisions of Article 37 of the Chinese Patent Law, the applicant shall submit the observation within FOUR months from the date of receiving this notification. If the applicant, without any justified reason, fails to reply within the time limit, the application shall be deemed to have been withdrawn.

(2) The applicant shall make amendments to what is not in conformity with the provisions in the text of this notification. The amended text shall be furnished in duplicate. The formality of the document should be in conformity with the relative provisions of the Guidebook for Examination.

(3) The applicant and/or his attorney could not go to the PRC Patent Office to meet the examiner if no appointment is made.

(4) **Any response and/or amended specification must be mailed or sent by hand to the receiving Department of the PRC Patent Office. Any documents that are not sent to the Receiving Department do not have legal force.**

9. The text of notification embraces 3 page(s), along with the enclosures herein:

☒ 1 copy of the cited references is enclosed in page of 16.

Notification of The First Office Action

The present invention relates to an incombustible resin composition. The following comments are provided after substantive examination:

1. Claim 1 is rejected under **A 22.2** of the Patent Law of China (PLC) as being lacking of novelty over the cited document 1(CN 1070061 A). Claim 1 seeks for protection of an incombustible resin composition, which comprises a silicon (silicone) oligomer, a metal hydrate and a resin material as essential components, wherein the metal hydrate is 20% by weight or more in the total solids of the resin composition. Document 1 discloses a flame retardant resin composition, which comprises a silicon(silicone) oligomer (polydimethylsiloxane with the degree of polymerization of 6-15), a resin material (polymer), a metal hydroxide or metal hydrate, wherein the metal hydrate is more than 20% by weight in the composition. (refer to the description and claims for reference). Therefore, the technical solution defined in claim 1 is almost the same as the one disclosed in document 1 except that the wordings are not totally identical. In addition, the technical solutions defined respectively in claim 1 and in document 1 may be applied to the same technical fields and can provide the same technical effects. Based on the above comparison, it can be concluded that the technical solution defined in claim 1 does not possess novelty.
2. Claim 2 is rejected under **A 22.3** of the PLC as being lacking of inventive steps. In claim 2, the resin material according to claim 1 is limited to a group of resins, which are generally used in the flame retard materials. Since the obtaining of the additional technical feature in claim 2 may be obvious for the person skilled in the art, the technical solution defined in claim 2 does not possess inventive steps.
3. Claim 3 is also rejected under **A 22.3** of the PLC as being lacking of inventive steps. Document 1 suggests that when the surface of metal hydroxide is treated by compound such as silane, the performance of the metal hydroxide could be improved. Similarly, in the present invention, silicon (silicone) oligomer is used

for surface treatment of metal hydroxide. Since the agents for surface treatment used in the present invention resembles that in document 1, further, the technical solution defined in claim 3 does not lead to unexpected technical effect, claim 3 has not prominent substantive features and does not represent a notable progress.

4. Claims 4-7 and 9-11 are rejected under A 22.2 of the PLC as being lacking of novelty over the cited document 1. The additional technical features directed by these claims are disclosed in document 1 (refer to pages 7 and 8 for reference). Specifically, the followings (1) to (4) disclosed in document 1 correspond to the technical features of claims 4, 6 and 7, claim 5, claim 9 and claim 10 respectively, and thus these claims do not possess novelty.

- (1) The metal hydroxide can be selected from aluminum hydroxide, magnesium hydroxide or calcium hydroxide;
- (2) The average diameter of the metal hydroxide or metal hydrate is 0.5 to 15 μ m;
- (3) The polymerization degree of silicon polymer (polydimethylsiloxane) is 6-15;
- (4) The silicon polymer (polysiloxane) having aryl group (phenyl) could be used.

5. Claims 12-16 are rejected under A 22.3 of the PLC as being lacking of inventive steps. The subject matters sought for protection in these claims are uses of the above incombustible resin composition in manufacturing a prepreg, a laminated plate, a metal-clad and a multi-layer printed wiring board. Since the uses themselves are not new or creative as it is, the evaluation of their novelty or inventiveness may depend on the claims they cite.


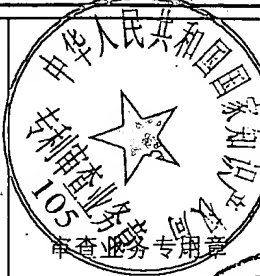

6. Claim 17 is rejected under A 22.3 of the PLC as being lacking of inventive steps. Claim 17 seeks for protection of a method for preparing an incombustible resin composition. Since the means to obtain a composition by blending the components themselves is not unique as it is, the evaluation of its novelty or inventiveness may depend on the claim it cites.

7. Claims 1, 3, 8-11 and 17 are rejected under R 21.1 of the Implementing Regulations of the PLC as lacking of clarity.

The use of "silicon (silicone) oligomer" in these claims may be clearly defined by limiting the degree of polymerization on condition that such definition can be drawn from the description.

Based on the above reason, the present application cannot be granted patent right unless the applicant amends the present application and overcomes the defects pointed by the First Office Action under Article 33 of the Patent Law of China.

中华人民共和国国家知识产权局

邮政编码: 100029 北京市朝阳区裕民路 12 号 中国国际科技会展中心 A1210 号 北京银龙专利代理有限公司 皋吉甫		 审查员签章	 审查业务专用章
申请号	01136521.8	部门及通知书类型	9 -D
申请人	日立化成工业株式会社		
发明名称	不燃树脂组合物、预浸片、层压板、金属包皮层压板、印刷电路板 和多层印刷电路板		
		发文日期 	

第一次审查意见通知书

1. ☒ 依申请人提出的实审请求, 根据专利法第 35 条第 1 款的规定, 审查员对上述发明专利申请进行实质审查。
☐ 根据专利法第 35 条第 2 款的规定, 国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☒ 申请人要求以其在:

日本 专利局的申请日 2000 年 10 月 13 日为优先权日,
 专利局的申请日 年 月 日为优先权日,
 专利局的申请日 年 月 日为优先权日,
 专利局的申请日 年 月 日为优先权日,
 专利局的申请日 年 月 日为优先权日。
☒ 申请人已经提交了经原申请国受理机关证明的第一次提出的在先申请文件的副本。
☐ 申请人尚未提交经原申请国受理机关证明的第一次提出的在先申请文件的副本, 根据专利法第 30 条的规定视为未提出优先权要求。
3. ☐ 申请人于 年 月 日和 年 月 日提交了修改文件。
 经审查, 其中: 年 月 日提交的 不能被接受;
 年 月 日提交的 不能被接受;
 因为上述修改 ☐ 不符合专利法第 33 条的规定。 ☐ 不符合实施细则第 51 条的规定。
 修改不能被接受的具体理由见通知书正文部分。
4. ☒ 审查是针对原始申请文件进行的。
☐ 审查是针对下述申请文件的:

申请日提交的原始申请文件的权利要求第 项、说明书第 页、附图第 页;
 年 月 日提交的权利要求第 项、说明书第 页、附图第 页;
 年 月 日提交的权利要求第 项、说明书第 页、附图第 页;
 年 月 日提交的权利要求第 项、说明书第 页、附图第 页;
 年 月 日提交的说明书摘要, 年 月 日提交的摘要附图。
5. ☐ 本通知书是在未进行检索的情况下作出的。
☒ 本通知书是在进行了检索的情况下作出的。
☒ 本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期
1	CN 1070061 A	1993 年 3 月 17 日
2		年 月 日
3		年 月 日
4		年 月 日

6. 审查的结论性意见:

☐ 关于说明书:

☐ 申请的内容属于专利法第 5 条规定的不授予专利权的范围。

☐ 说明书不符合专利法第 26 条第 3 款的规定。

☐ 说明书的撰写不符合实施细则第 18 条的规定。

☐

☒ 关于权利要求书:

☒ 权利要求 1、4-7、9-11 不具备专利法第 22 条第 2 款规定的新颖性。

☒ 权利要求 2、3、12-16、17 不具备专利法第 22 条第 3 款规定的创造性。

☐ 权利要求 不具备专利法第 22 条第 4 款规定的实用性。

☐ 权利要求 属于专利法第 25 条规定的不授予专利权的范围。

☐ 权利要求 不符合专利法第 26 条第 4 款的规定。

☐ 权利要求 不符合专利法第 31 条第 1 款的规定。

☐ 权利要求 不符合专利法实施细则第 2 条第 1 款关于发明的定义。

☐ 权利要求 不符合专利法实施细则第 13 条第 1 款的规定。

☒ 权利要求 1、3、8-11、17 不符合专利法实施细则第 20 条至第 23 条的规定。

☐

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见, 审查员认为:

☐ 申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。

☒ 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。

☐ 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被驳回。

☐

8. 申请人应注意下述事项:

(1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的肆个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。

(2) 申请人对其申请的修改应符合专利法第 33 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。

(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。

(4) 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 3 页, 并附有下列附件:

☒ 引用的对比文件的复印件共 1 份 16 页。

☐

审查 九 部 审查员 9473

审查部门业务专用章
(未加盖审查业务专用章的通知书不具备法律效力)

第一次审查意见通知书

本申请涉及一种不燃树脂组合物。经审查，具体意见如下：

1. 权利要求 1 不符和专利法第二十二条第二款有关新颖性的规定。

该权利要求请求保护一种不燃树脂组合物，它包括硅低聚物、金属水合物和树脂材料主要组份，其中金属水合物在树脂组合物的固体总量中的含量为 20 重量%或 20 重量%以上。对比文件 1 (CN 1070061 A) 公开了一种阻燃的树脂组合物，其中含有硅低聚物（聚合度为 6-15 的聚二甲基硅氧烷），树脂材料（聚合物），金属氢氧化物或水合金属盐，金属水合物的含量占组合物总量的 20% 以上（见对比文件 1 说明书及权利要求书）。由此可见，该权利要求所要求保护的技术方案与对比文件 1 所公开的内容相比，所不同的仅仅是文字表达方式上略有差别，其技术方案实质上是相同的，且两者属于相同的技术领域，并能产生相同的技术效果，因此该权利要求所要求保护的技术方案不具备新颖性。

2. 权利要求 2 不符和专利法第二十二条第三款有关创造性的规定。

该权利要求将树脂材料进行了具体选定，但是这些材料均为阻燃材料当中通常应用的树脂，对所属技术领域的技术人员来说是显而易见的，因此该权利要求所要求保护的技术方案不具备突出的实质性特点和显著的进步。

3. 权利要求 3 不符和专利法第二十二条第三款有关创造性的规定。

对比文件 1 当中提示了金属氢氧化物表面经过硅烷等化合物表面处理后其性能会得到改善。那么，本申请当中使用硅低聚物对金

属氢氧化物进行处理，其所使用的表面处理剂结构和性质与对比文件 1 当中的颇为相近，而且也没有带来意想不到的技术效果。因此，该权利要求所要求保护的技术方案不具备突出的实质性特点和显著的进步。

4. 权利要求 4-7, 9-11 不符合专利法第二十二条第二款有关新颖性的规定。这几项权利要求当中的附加技术特征已被对比文件 1 公开（参见该对比文件的说明书 7、8 页）“金属水合物选自氢氧化铝、氢氧化镁或氢氧化钙，金属水合物的粒径 0.5-15 微米，硅聚合物的聚合度为 6-15，硅聚合物带有芳基（苯基）”，因此该权利要求所要求保护的技术方案也不具备专利法规定的新颖性。
5. 权利要求 12-16 不符合专利法第二十二条第三款有关创造性的规定。这几项权利要求请求保护的不燃树脂组合物的在预浸片、层压板、金属包皮层压板、印刷电路板当中的应用是公知常识。当其引用的权利要求不具有新颖性或创造性时，该权利要求请求保护的技术方案不具有创造性。
6. 独立权利要求 17 不符合专利法第二十二条第三款有关创造性的规定。该权利要求请求保护的制备方法仅包括混合这一操作，而且是组合物的通用制备步骤。当权利要求 1 所请求保护的树脂组合物不具有新颖性时，通过混合步骤制备树脂组合物的方法不能给本发明带来突出的实质性特点和显著的进步。
7. 权利要求 1、3、8-11、17 不符合专利法实施细则第二十条第一款的规定。这几项权利要求当中使用了“硅低聚物”，这一说法

所表达的含义是不确切的，不能清楚地概括所请求保护的范围。

在说明书当中进行了定义的情况下应该将聚合度的范围引入到权利要求中。

基于上述理由，本申请按照目前的文本是不能被授权的，申请人应当在本通知书指定的答复期限内对本通知书提出的问题逐一进行答复，必要时应修改专利申请文件，否则本申请将不能被授权。申请人对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书记载的范围。